

Application No. 10/701,509 (McInnes)
Reply to O.A. of Jan 26, 2007

Amendments to the Claims

The following listing of claims will replace all prior versions, and listings, of claims in the application:

CLAIMS:

1. (CURRENTLY AMENDED) An image distortion method comprising the steps of:
 - (a) maintaining in computer memory a set of base data values representing an image to be subjected to a transformation function;
 - (b) calculating an non identity approximation of the transformation function;
 - (c) retrieving from computer memory one or more of the base data values;
 - (d) calculating an intended magnification value (M_i) [(M_e)] for one or more of the retrieved base data values;
 - (e) calculating an estimated magnification value (M_s) [(M_e)] for one or more of the retrieved base data values;
 - (f) storing in computer memory the estimated magnification values as a set of transformed data values representing the transformed image;
 - (g) calculating a [the] difference (M_d) between the estimated [intended] magnification value(s) and the intended [estimated] magnification value(s); and
 - (h) repeating steps (c) to (g) until the difference M_d is less than a predefined threshold.
2. (CURRENTLY AMENDED) The [An] image distortion method as claimed in claim 1 wherein the step of calculating the [an] non identity approximation of the transformation function further comprises the steps of:
 - (a) defining an approximating function $G(p)$ to approximate the transformation function, the approximating function including one or more parameters;
 - (b) defining an initial value of one of the parameters (p);
 - (c) calculating a [the] maximal value of the derivative of the approximating function $G(p)$ using the parameter p ;
 - (d) calculating a [the] maximal intended magnification value using the parameter p ;

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- (e) calculating a [the] difference between the maximal value of the derivative of $G(p)$ and the maximal value of the intended magnification value;
- (f) adjusting the value of the parameter p ; and
- (g) repeating steps (c) to (f) until the difference between the maximal value of the derivative of $G(p)$ and the maximal value of the intended magnification value is less than a pre-defined threshold.

3. (CURRENTLY AMENDED) An image distortion system for subjecting a set of base data values representing an image to a transformation function, the system comprising:

- a transformation approximation component configured to calculate an non identity approximation of the transformation function;
- an intended magnification calculator configured to calculate an intended magnification value (M_i) [(M_s)] for one or more of the base data values;
- an estimated magnification calculator configured to calculate an estimated magnification value (M_e) [(M_s)] for one or more of the data base values; and
- a convergence measurer configured to compare the difference (M_d) between the estimated [intended] magnification value and the intended [estimated] magnification value (M_E) with a threshold value.